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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,453	02/13/2001	Norihiko Nakagawa	1155-0215P	1019

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BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/781,453

Applicant(s)

NAKAGAWA ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. The new grounds of rejection as set forth below are necessitated by applicants' amendment filed 1/13/03 and thus, the following action is final.

**Claim Rejections - 35 USC § 103**

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1, 3-5, 7-9, and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 716121 in view of Sadatoshi et al. (U.S. 5,340,878) and either Yamamoto et al. (U.S. 5,656,696) or JP 54120656.

The rejection is adequately set forth in paragraph 3 of the office action mailed 11/9/02, Paper No. 7, and is incorporated here by reference.

With respect to newly added claims 11-12, it is noted that EP 716121 discloses extrusion coating comprising the above described composition (page 25, lines 1-18 and page 31, lines 23-35).

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 716121 in view of Sadatoshi et al. and either Yamamoto et al. or JP 54120656 as applied to claims 1, 3-5, and 7-9 above, and further in view of Yoshimura et al. (U.S. 5,443,765).

The rejection is adequately set forth in paragraph 4 of the office action mailed 11/9/02, Paper No. 7, and is incorporated here by reference.

5. Claims 1, 3, 5, and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugano et al. (U.S. 5,468,781) in view of EP 716121 and either Yamamoto et al. (U.S. 5,656,696) or JP 54120656.

The rejection is adequately set forth in paragraph 5 of the office action mailed 11/9/02, Paper No. 7, and is incorporated here by reference.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugano et al. in view of EP 716121 and either Yamamoto et al. or JP 54120656 as applied to claims 1, 3, 5, and 7-8 above, and further in view of Yoshimura et al. (U.S. 5,443,765).

The rejection is adequately set forth in paragraph 6 of the office action mailed 11/9/02, Paper No. 7, and is incorporated here by reference.

7. Claims 1, 4-5, 7-9, and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 54120656 in view of EP 716121.

The rejection is adequately set forth in paragraph 7 of the office action mailed 11/9/02, Paper No. 7, and is incorporated here by reference.

With respect to newly added claims 11-12, it is noted that JP 54120656 discloses extrusion coating comprising the above described composition (page 6, first full paragraph).

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 54120656 in view of EP 716121 as applied to claims 1-2, 4-5, and 7-9 above, and further in view of Yoshimura et al. (U.S. 5,443,765).

The rejection is adequately set forth in paragraph 8 of the office action mailed 11/9/02, Paper No. 7, and is incorporated here by reference.

9. Claims 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 716121 in view of Sadatoshi et al. (U.S. 5,340,878) and either Yamamoto et al. (U.S. 5,656,696), JP 54120656, or Yoshimura et al. (U.S. 5,433,765).

EP 716121 discloses a composition comprising 5-95% propylene/1-butene random copolymer which is characterized in that the copolymer contains (i) 50-95 mol% propylene and 5-50 mol% 1-butene, (ii) molecular weight distribution  $M_w/M_n$  of not more than 3, (iii) B value of 1-1.5, (iv) melting point of 60-140 °C wherein the melting point satisfies the relationship  $-2.6M + 130 < T_m < -2.3M + 155$  where M is the mol% of 1-butene present in the copolymer, and (v) degree of crystallinity measured by x-ray diffractometry of satisfying the relationship

$C > -1.5M + 75$  where M is the mol% of 1-butene present in the copolymer. The propylene/1-butene copolymer is obtained by copolymerizing propylene and 1-butene in the presence of olefin polymerization catalyst wherein the catalyst comprises transition metal compound identical to that presently claimed and an organoaluminum oxy compound and/or a compound capable of reacting with transition metal compound to form an ion pair. The composition also comprises additives such as inorganic filler, antioxidant, antistatic agent, lubricant, UV absorber, etc. There is also disclosed a composite film comprising a substrate layer

and laminated onto one side a resin layer obtained from the above composition wherein the resin layer has thickness of 0.1-50  $\mu\text{m}$ . Further, EP 716121 discloses extrusion coating comprising the above described composition (page 2, lines 28-31 and 33-36, page 2, line 40-page 3, line 35, page 3, lines 42 and 45-46, page 4, lines 46-47 and 54-58, page 5, lines 1-32, page 9, line 7-page 10, line 58, page 18, lines 16-17 and 26-29, page 21, line 37, page 22, lines 19-25, page 24, lines 20-22, page 25, lines 1-18 and page 31, lines 23-35).

The difference between EP 716121 and the present claimed invention is the requirement in the claims of (a) melt flow rate of propylene/1-butene copolymer and (b) low-density polyethylene.

With respect to difference (a), EP 716121 is silent with respect to the melt flow rate of the propylene/1-butene copolymer.

Sadatoshi et al., which is drawn to composition comprising propylene/1-butene copolymer and ethylene/ $\alpha$ -olefin copolymer, disclose the use of propylene/1-butene copolymer having melt flow rate of 3-50 g/10min in order to produce a copolymer which has suitable transparency and workability wherein the melt flow rate is measured according to JIS K7210 (col.2, lines 41-44, 51-53, and 55-56 and col.4, lines 45-48). It is noted, as found in state-of-the-art references such as Nohara et al. (U.S. 5,891,946), that JIS K7210 standard is equivalent to EP 716121 discloses the use of polyethylene, however, there is no explicit disclosure of low-density polyethylene as presently claimed.

With respect to difference (b), Yamamoto et al., which is drawn to resin composition, disclose the use of 1-50% high-pressure low-density polyethylene which is either (i) ethylene homopolymer which has melt flow rate of 10-50 g/10 min according to JIS K7210 at 190  $^{\circ}\text{C}$  and

2.16 kg and density of  $0.918\text{--}0.927\text{ g/cm}^3$  (col.6, lines 20-53) or (ii) ethylene/ $\alpha$ -olefin which has melt flow rate of 1-150 g/10 min according to JIS K7210 at  $190^\circ\text{C}$  and 2.16 kg and density of not more than  $0.915\text{ g/cm}^3$  (col.2, lines 31-60) wherein such high-pressure low-density polyethylene is used in order to produce a composition with good moldability, excellent transparency and excellent impact strength (col.1, lines 57-63). It is noted, as found in state-of-the-art references such as Nohara et al. (U.S. 5,891,946), that JIS K7210 standard is equivalent to ASTM D 1238 standard as presently claimed (col. 12, lines 28-31).

Alternatively, JP 54120656, an English translation of which is included in this office action, which is drawn to composition comprising propylene/1-butene, disclose the use of low density polyethylene which has melt flow rate of 1-40 g/10 min (measured in accordance with ASTM D-1238) and density of less than  $0.94\text{ g/cm}^3$  or preferably  $0.915\text{--}0.93\text{ g/cm}^3$ , in order to produce composition with excellent heat, wear, and scratch resistance as well as good workability time of lamination (paragraph bridging pages 4-5 and page 5, second full paragraph).

Alternatively, Yoshimura et al., which is drawn to composite film, disclose the use of low-density ethylene/ $\text{C}_3\text{--C}_{12}$   $\alpha$ -olefin copolymer which has melt flow rate of 0.2-15 g/10 min measured using ASTM D 1238 conditions and density of  $0.89\text{--}0.935\text{ g/cm}^3$ . The motivation for using such polyethylene is due to its excellent stretchability, softness, and strength (col.11, lines 20-21, 25, and 57 and col.12, lines 3-16).

In light of the motivation for using propylene/1-butene copolymer with specific melt flow rate disclosed by Sadatoshi et al. and the motivation for using low-density polyethylene disclosed by either Yamamoto et al., JP 54120656, or Yoshimura et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such propylene/1-butene and

low-density polyethylene in EP 716121 in order to produce composition with good transparency and workability, as well as good moldability, excellent transparency and excellent impact strength, or alternatively, excellent heat, wear, and scratch resistance, or alternatively, excellent stretchability, softness, and strength, and thereby arrive at the claimed invention.

### **Response to Arguments**

10. Applicants' arguments filed 1/13/03 have been fully considered but they are not persuasive.

Specifically, applicants argue that:

(a) There is no motivation to combine EP 716121 with Sadatoshi et al. given that Sadatoshi et al. disclose different polymer than the metallocene-catalyzed copolymer presently claimed and further given that Sadatoshi et al. disclose different amount of polyethylene than presently claimed.

(b) There is no motivation to combine EP 716121 with Yamamoto et al. given that Yamamoto et al. discloses  $\alpha$ -olefin having 4 or more carbon atoms while the present invention pertains to 3 carbon atom  $\alpha$ -olefin.

(c) Yamamoto et al. is non-analogous art.

(d) JP 54120656 disclose propylene/1-butene copolymer prepared using Ziegler-Natta catalyst not metallocene catalyst as presently claimed.

(e) The propylene/1-butene of JP 54120656 does not meet the melting temperature,  $T_m$ , relationship as presently claimed.

(f) Yoshimura et al. only disclose limited number of ethylene/ $\alpha$ -olefin copolymers.



With respect to argument (a), it is noted that there is no disclosure in EP 716121 of the melt flow rate (MFR) of the propylene/1-butene copolymer, which is why EP 716121 is used in combination with Sadatoshi et al. which teaches the MFR of the copolymer.

Applicants argue that Sadatoshi et al. disclose different polymer than that presently claimed given that Sadatoshi et al. do not use metallocene catalyst as presently claimed when forming the polymer.

However, it is noted that only present claims 3, 10, and 13 require that the propylene/1-butene copolymer is polymerized in the presence of a metallocene catalyst. Further, it is noted that Sadatoshi et al. is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely the melt flow rate of propylene/1-butene, and in combination with the primary reference, discloses the presently claimed invention. It is noted that as set forth by applicants' own comparative data as found on page 38 of the present specification, the use of Ziegler-Natta catalyst as utilized in Sadatoshi et al. as opposed to metallocene catalyst as utilized in the present invention does not affect the melt flow rate of the propylene/1-butene copolymer.

Applicants also argue that Sadatoshi et al. disclose amount of polyethylene outside the scope of the present claims. While Sadatoshi et al. do disclose amount of crystalline ethylene polymer, i.e. 3.8%, outside the scope of the present claims, i.e. 5%, as described above, Sadatoshi et al. is used as a teaching reference and therefore it is not necessary for his reference

Art Unit: 1714

to contain all the features of the presently claimed invention. Additionally, it is noted that the instantly claimed amount of polyethylene and that taught by Sadatoshi et al. are so close to each other that the fact pattern is similar to the one in *In re Woodruff*, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a "slight" difference in the ranges the court held that such a difference did not "render the claims patentable" or, alternatively, that "a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties". In light of the case law and given that there is only a "slight" difference between the amount of polyethylene disclosed by Sadatoshi et al. and the amount disclosed in the present claims, it therefore would have been obvious to one of ordinary skill in the art that the amount of polyethylene disclosed in the present claims is but an obvious variant of the amounts disclosed in Sadatoshi et al.

With respect to argument (b), it is noted that only claim 5-6, 10, and 13 require ethylene/ $\alpha$ -olefin copolymer and in these claims the  $\alpha$ -olefin has 3-20 carbon atoms. Thus, the disclosure of Yamamoto et al. of ethylene/ $\alpha$ -olefin wherein the  $\alpha$ -olefin comprises 4 or more carbon atoms, clearly encompasses the scope of the present claims.

With respect to argument (c), applicants argue that Yamamoto et al. is non-analogous art given that the present claims are drawn to extrusion coating not injection molding as disclosed by Yamamoto et al.

However, it is noted that Yamamoto et al. is only used as a teaching reference to disclose the use of low-density polyethylene. The primary references utilized in the rejections of record, namely, EP 716121 and JP 54120656, already disclose propylene/1-butene copolymer composition for extrusion coating as presently claimed.

Further, applicants' are reminded that according to MPEP 2141.01 (a), a reference may be relied on as a basis for rejection of an applicants' invention if it is "reasonably pertinent to the particular problem with which the inventor is concerned." A reasonably pertinent reference is further described as one which "even though it maybe in a different field of endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." Yamamoto et al. is, therefore, a reasonably pertinent reference, because it teaches that the use of high pressure, low density polyethylene in order to produce composition with good moldability, excellent transparency, and excellent impact strength, which is a function especially pertinent to the invention at hand.

With respect to argument (d), firstly, it is noted that only claims 3, 10, and 13 require that the propylene-1-butene is polymerized in the presence of metallocene catalyst. When JP 54120656 is used as a primary reference (see paragraph 7 above), it is noted that JP 54120656 is not used as a reference against claims 3, 10, or 13. When used as a secondary reference (see paragraphs 3 and 5 above), it is noted that JP 54120656 is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a

certain concept, namely the use of low-density polyethylene, and in combination with the primary reference, discloses the presently claimed invention.

With respect to argument (e), it is agreed that none of the examples in JP 54120656 disclose propylene/1-butene that meets the relationship between melting temperature and butene content as presently claimed. However, these are just a few preferred embodiments of JP 54120656. A fair reading of the reference as a whole discloses propylene/1-butene copolymer which comprises 55-85 mol% propylene and 15-45 mol% 1-butene and melting point of 80-130 °C which fall squarely within mol% propylene (5-95 mol%), mol% 1-butene (5-50 mol%), and melting point (60-140 °C) presently claimed. Given that JP 54120656 discloses melting point and butene content identical to that presently claimed, it is clear that the propylene/1-butene copolymer of JP 54120656 would meet the relationship between melting temperature and butene content as presently claimed. Although there are no examples which meet the  $T_m$  relationship, it is noted that "nonpreferred disclosures can be used. A nonpreferred portion of a reference disclosure is just as significant as the preferred portion in assessing the patentability of claims." *In re Nehrenberg*, 280 F.2d 161, 126 USPQ 383 (CCPA 1960). Further, "applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others." *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967).

With respect to argument (f), it is noted that Yoshimura et al. disclose the use of low-density ethylene/ $C_3$ - $C_{12}$   $\alpha$ -olefin copolymer. While the  $\alpha$ -olefins disclosed do not encompass

Art Unit: 1714

every type presently claimed, this disclosure still meets the limitations of claim 6 and claim 10 which each requires only "at least one"  $\alpha$ -olefin. Even if Yoshimura et al. only disclosed one type of  $\alpha$ -olefin that would be enough to reject the claim.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

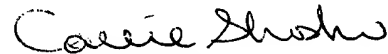
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the

Art Unit: 1714

organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Callie E. Shosho  
Examiner  
Art Unit 1714

CS  
March 18, 2003